

Amendment under 37 C.F.R. § 1.111
Application No. 09/813,144

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

What is claimed is:

1. (original): A method of performing IP multicast communication, comprising the steps of:
 - (a) at least one client requesting the IP multicast communication from a source via at least one bidirectional communication channel; and
 - (b) transmitting the IP multicast communication generated at the source to at least one destination via a unidirectional communication channel that operates independently of the at least one bidirectional communication channel, wherein the at least one client is positioned in the at least one destination.
2. (original): The method of claim 1, further comprising the source receiving a confirmation from the at least one destination via the at least one bidirectional communication channel in response to a confirmation request transmitted from the source to the at least one destination.
3. (currently amended): The method of claim 1, further comprising:
 - (a) recording a receiving time indicative of the at least one client starting to receive the IP multicast communication;
 - (b) recording a termination time indicative of the at least one client terminating reception of the IP multicast communication; and

Amendment under 37 C.F.R. § 1.111
Application No. 09/813,144

(c) calculating client user statistics and generating a bill for the IP multicast communication in accordance with said client user statistics, wherein at least one of steps (a) and (b) is performed at the source.

4. (currently amended): The method of claim 1, further comprising encoding a live media stream for real-time transmission to the at least one client in ~~the~~ step (b).

5. (currently amended): The method of claim 1, further comprising converting the IP multicast ~~transmission communication~~ to unicast at the at least one destination in accordance with destination information stored at the source based on data transmitted on the at least one bidirectional communication channel.

6. (currently amended): The method of claim 1, wherein ~~the~~ step (a) comprises using a number of the at least one bidirectional communication ~~channels~~ channel that is less than or equal to a number of the at least one destination.

7. (currently amended):The method of claim 6, further comprising using the Internet as ~~the~~ at least one bidirectional communication channel.

8. (original): The method of claim 1, the step (b) comprising transmitting the IP multicast communication from a transmitting satellite dish at the source to a to a receiving satellite dish at the at least one destination through a unidirectional satellite.

9. (currently amended):A method of configuring IP multicast communication, comprising the steps of:

(a) requesting the IP multicast communication from a client in one of a plurality of downstream networks to an upstream network via a corresponding bidirectional return channel;

- (b) encoding a live media stream in the IP multicast communication and transmitting ~~the~~ an IP multicast communication generated at the upstream network to ~~the~~ at least one downstream network via a unidirectional satellite that operates independently of the corresponding bidirectional return channel, the transmission of ~~the~~ live media occurring in real-time without being stored at the destination prior to receipt by the client;
- (c) the upstream network receiving a confirmation of receipt of the IP multicast communication by the ~~from~~ the client via the corresponding bidirectional return channel in response to a confirmation request transmitted from the upstream network to the at least one downstream network;
- (d) recording a receiving time when the ~~at least one~~ client begins to receive the IP multicast communication;
- (e) recording a termination time when the ~~at least one~~ client terminates reception of the IP multicast communication; and
- (f) generating a bill for the IP multicast communication in accordance with the receiving time and the termination time, wherein at least one of steps (d) and (e) is performed at the upstream network via the return channel and the bidirectional return channel comprises the Internet.

10. (currently amended):A system for IP multicast communication, comprising:
a destination that transmits a request via a return channel and receives an IP multicast communication from a unidirectional communication channel; and
a source that receives the request through a the return channel, and generates and transmits the IP multicast communication to the unidirectional communication channel in

Amendment under 37 C.F.R. § 1.111
Application No. 09/813,144

accordance with the request, wherein the unidirectional communication channel and the return channel operate independently.

11. (original): The system of claim 10, wherein the unidirectional communication channel comprises a satellite.

12. (original): The system of claim 10, the destination comprising:
at least one downstream network having a client that generates the request; and
a reception device that receives and transmits the IP multicast communication from the unidirectional communication channel to a router that communicates via the return channel.

13. (original): The system of claim 10, wherein the return channel comprises the Internet.

14. (original): The system of claim 10, wherein the source is configured to record usage statistics for requesting a client at the destination, and generates a bill in response to the usage statistics.

15. (original): The system of claim 10, the source comprising:
a media server that prepares a media stream; and
an upstream network that is coupled to the media server and receives the media stream and generates the IP multicast communication.

16. (original): The system of claim 15, the source further comprising a media encoder that receives a live media stream and transmits the live media stream to the media server for real-time transmission to a client at the destination.

17. (currently amended):The system of claim 15, further comprising:
a router coupled between the upstream network; and

Amendment under 37 C.F.R. § 1.111
Application No. 09/813,144

a transmission device ~~that , wherein said transmission device~~ transmits the IP multicast communication to the unidirectional communication channel without delay.

18. (original): The system of claim 10, further comprising:

a director coupled to the source that receives conversion information via the return channel; and

a conversion server coupled to the destination that converts the IP multicast communication to unicast in accordance with the conversion information and without requiring a routing table.

19. (currently amended):A system for IP multicast communication, comprising:

a destination transmitting a request and receiving an IP multicast communication from a unidirectional satellite, the destination comprising,

at least one downstream network having at least one client that generates the request,

a reception device that receives and transmits the IP multicast communication from the unidirectional satellite to a router that is configured to communicate via ~~the a~~ return channel, and

a conversion server coupled to the destination that converts the IP multicast communication to unicast in accordance with conversion information ~~received form the source~~;

a source, configured to send said information to said server and to record usage statistics for a client in the destination and generate a bill in response to the usage statistics, that receives the request through a ~~the~~ return channel, and generates and transmits the IP multicast

communication to the unidirectional satellite in accordance with the request, the source comprising,

a media server configured to output a processed media stream,

a media encoder that receives a live media stream and transmits the live media stream to the media server for processing,

an upstream network coupled to the media server ~~and receiving that receives~~ the processed media stream and generates the IP multicast communication,

a director coupled to the source that receives the conversion information via the return channel, and

a router coupled between the upstream network and a transmission device configured to transmit the IP multicast communication to the unidirectional satellite;

wherein the unidirectional satellite and the return channel operate independently, and the return channel comprises the Internet.

20. (currently amended): A method of transmitting data between a source and at least one destination, comprising:

transmitting a request signal from the at least one destination to the source over the Internet;

processing one of a live and non-live media stream in the source in accordance with the request signal;

generating an IP multicast signal that includes ~~the~~ a media stream, and transmitting the IP multicast signal to the at least one destination via an unidirectional communication channel that operates independently of a return channel; and

Amendment under 37 C.F.R. § 1.111
Application No. 09/813,144

through the return channel, transmitting one of usage information from the source to the destination and a usage information request from the destination to the source, and confirming reception of the IP multicast signal by a client in the at least one destination.

21. (currently amended): The method of claim 1, further comprising configuring a router in a transparent manner with respect to said a network for application to multi-hop networks positioned in at least one of said source and the at least one destination.

22. (currently amended): The method of claim 10, further comprising a router configured transparently with respect to said a network for application to multi-hop networks, located in at least one of said source and said destination.

23. (currently amended): The method of claim 1, further comprising turning off a stream is if there is no client listening to said stream from the at least one destination.